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SEMINAR NOTES.

THE METHODOLOGY OF THE SOCIAL PROBLEM. DIVISION I. THE SOURCES AND USES OF MATERIAL.

PART I. GENERAL METHODOLOGY.

CHAPTER I.

INTRODUCTION.

RADICAL error and persistent confusion would be forestalled, if students could be familiar from the start with the fact that sociology is not, first and foremost, a set of schemes to reform the world. To deserve respect sociology must become an accredited section of general philosophy. Sociological methodology has the task of arranging all the kinds and sources of knowledge which have a bearing upon the relations of men to each other.

In order to show that the new order of knowledge called sociology is not Quixotic in calling for an organization of kinds of knowledge that are known by name only to exceptional people, it should be said that sociology is a pursuit which may be undertaken successfully only by persons whose philosophical talents and training are of the first order. Tom, Dick, and Harry may and must have opinions about the social relations with which they are most intimately concerned, but only one man in ten thousand is likely to engage profitably in an attempt to organize all the facts about society into a system. This is only parallel with the facts about division of labor in all other human pursuits. Out of ten thousand good machinists there would probably not be more than one fitted by nature and by training to pursue the science of physics. Sooner or later, to be sure, all physical science enlarges the possible knowledge of all men. Progress in sociological science should have similar results. It remains true, nevertheless, that the most generalized knowledge, whether physical or social, is beyond the present reach of all but a relatively small number. Less general ized knowledge, special phases of knowledge, special applications of knowledge, will and must suffice for the majority.

It must accordingly be understood that this outline is not a programme which the author would advise all members of society to adopt as their introduction to right thinking about society. It is not presumed that citizens in general must do without the kinds of opinions which they require for practical purposes, unless they consent to plod through the following survey of social science and its divisions of labor. That is no more the case than mastery of the science of astrophysics is necessary before one can become an able-bodied seaman. The method to be outlined is rather the programme which must be followed in order to make the most comprehensive organization of knowledge about society that our present insight permits. Such a method is to be judged on its merits as an *organization of knowledge and of research*, not by the criterion of its immediate availability for popular programme making.

The "social problem" is, first and foremost, the problem of knowing society, both actually and potentially. What to do about improving society at any particular point depends upon assumed knowledge about the facts of social structure and social forces. To a certain extent we have such knowledge. We want and need more. To get it is the most difficult task that science has yet proposed. It involves organization and adaptation of all extant knowledge about people, and of all known methods of getting more knowledge. The "social problem" is not an abstract problem. *It is the problem of thinking the whole human reality as a whole.* It demands such correlations of all special inquiries into human facts that each will complete and be completed by the rest.

This contribution to the methodology of the social problem begins with certain elements of general methodology as represented by Wundt's *Methodenlehre.* That work is used, however, very much as the Roman nobles of the Middle Ages used the Colosseum; viz., as a quarry for material which is put to uses quite different from those that the author intended. At the same time, the attempt is made to interpret Wundt and to advertise the desirability of much more extended use of his work than can be made in this course. This intention is more fully carried out in the lectures upon the syllabus than in the printed notes themselves. These latter contain careful translations of considerable portions of the *Methodenlehre.* They include free translations, paraphrases, and adaptations of other portions. They depart from Wundt's programme very early, however, and attack the problem of sociological method from a direction quite different from his angle of approach. Although the organization here attempted, if successful, will entirely displace Wundt's correlation of problems after those of psychology, yet the freest use is made throughout of everything in his work that will serve the present purpose.

These notes contain no definition of sociology. The plan is to make plain, if possible, what sort of knowledge about society is yet lacking, and to find in that hiatus the problem of sociology. If we are successful in making out that there is an order of social problem not only unsolved, but unformulated elsewhere, the discovery may indicate where there is room for sociology.

The logic of method is this: Given, *first*, a reality of which the mind is conscious, and about which the mind proposes questions; to discover, *second*, what elements are involved in answers to the questions, and to discover, *third*, by what means the implicit requirements of the questions may be satisfied.

To mark the most general bearings of the social problem, we may begin with the observation that we have before us the task of *investigating reality*. There are but two sides of reality to be studied. We cannot completely separate them if we will. It is impossible to know much about either without learning much about the other. Unless the mind turns from reality to fantasy, it has but this single choice, viz., between studying chiefly the world of things, on the one hand, or chiefly the world of people, on the other. Besides these there is no reality open to our research. To our minds, things have, and always must have, their meaning from their relations to persons. The physical universe may have a quite different meaning to an infinite intelligence, but men have to estimate it in its relation to human conditions. Human wants decide for human minds what is worth knowing about the world of things. A well-balanced conception of the world of people is a necessary condition of the broadest and deepest knowledge of the world of things. The converse of this is also true, viz., a well-balanced conception of the world of things is a necessary condition of the broadest and deepest knowledge of the world of people. All students of men should qualify themselves by much schooling in the sciences of things. But men cannot successfully take a standpoint outside of humanity. Our outlook is the human outlook. Until a very recent date most students of social facts went gaily at their work without thought of a social standpoint. If it were wise to tell the whole truth, I should add that ninety-nine in every hundred students of social facts still cheerfully continue the same unconscious programme. I refrain from the assertion, and simply say that we dissipate our energies if we fail to recognize the unity of our subject-matter. The object of human knowledge is not many "subjects," but one cosmos. That cosmos, as I have said, is composed of a world of things and a world of people. This world of people is in turn a unit. For convenience we divide it into parts, but we delude ourselves unless we keep ourselves conscious that those parts are all actual members of the social whole. All observable reality that does not belong to the world of things belongs to the social realm. It is either men, or men's groupings, or men's workings. Whether we study men's bodies, or their tools, or trades, or arts, or foods, or clothes, or houses, or wars, or games, or words, or prayers, or oaths, or songs, or books, or laws, we are studying phases of the one social fact. We are all studying one thing, whether we call ourselves students of language, or literature, or ethnology, or history, or psychology, or philosophy, or æsthetics, or theology, or economics, or civics, or sociology. Our subject-matter is the world of people, its conditions, its elements, its forms, its processes, its products. We falsify this world at the start, unless we study our portion of it in conscious recognition of its place in the unity.

The number of facts observable in the world of people is so enormous that, from the beginning until now, the rule has been for students of human facts to get so overwhelmed by the mass of facts within some one section of the world of people that they have never developed a sense of the proportions and unity of human society. They have been like Yankee Doodle. They could not see the town for the houses. Consequently, the world of people has been to them either a vast, senseless confusion, or it has been a little oasis of order surrounded by a wilderness of chaos. For illustration of the latter case I would cite those expounders of religions or literatures who have supposed themselves to understand their abstraction of social facts, while they were ignorant as babes about all the rest of the civilization in which the religion or the literature had its setting; within which alone either can be seen in its real meaning. I would cite those expounders of economics or politics who imagine that either of these groups of abstractions from the facts that make up a society can be known as they are without relating each objectively, not only to the other, but to the natural environment, the domestic institutions, the æsthetic standards, the social traditions, the intellectual attainments, the religious beliefs, and the moral codes of the society concerned. Above all I would cite every version of history which professes to report the life of any society, without placing in due proportion and perspective each of the great groups of human workings. These together, not in abstraction, fashion both the individual units and the social combinations of the period described. Whatever phase of human fact we choose to learn most intimately, we distort and mangle and pervert it, unless we first get such an outlook over the whole range of human facts that we can see our particular department of men's life in its actual working relations with all the rest.

I regret that the man whom I rate as the most acute social philosopher in Europe has a radically different view from my own about the scope of sociology. A short time ago we were discussing our differences, and I tried in vain to argue him into acceptance of my position. Presently I said: "However we may define our territory, the sociologists, at all events, are fighting for the perception that every point in every man's life is related to every point in every other man's life." Like a flash he answered: "There I agree with you; and when we have made everybody see that, the social problem is solved."

This outline is an argument for synthesis of knowledge and organization of study. Every person who attempts to form opinions about society ought to do enough study of formal social science, as contrasted with study of concrete social facts and abstracted groups of social relations, to get a good working comprehension of the proposition that in the world of people everything is related to everything. Let us not imagine that we are equipped for sane judgment of human relations until we are thoroughly aware that, whatever be our particular field of knowledge, our neighbors, studying other phases of human fact in all directions around our own field, are really completing our imperfect knowledge. Let us be specialists if we may. Let us concentrate our original research upon one of the great phases of human fact. But let us avoid being partialists, by learning how that phase must be coördinated with all the other phases in a true report of the world of people.[1]

This syllabus of method has been prepared to meet the wants of students who are ambitious to investigate society in the most comprehensive way. It must be said at the outset that scientific method is not absolute but relative. The procedure that is valid at one stage of knowledge is not the appropriate process at another stage. The things that we want to know vary with the progress of general knowledge, as well as with the mental development of the individual. Neither general nor individual knowledge advances in a straight line. A slight revision of a single portion of knowledge has often compelled reconsideration and readjustment of the whole body of scientific beliefs then prevalent. The purpose of this syllabus is to explain the correlation of scientific research which is "indicated" by our present insight into social relationships.

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[1] *Cf.* University of Chicago *Record*, February 4, 1898.

The reality which our minds encounter is the *world of people*, inseparable in fact from the world of things. Men have investigated this dual reality sufficiently to have furnished a somewhat circumstantial answer to the questions: What do we know about the world of people? What do we *need* to know about the world of people? How must we go to work to get the lacking knowledge?[1] In order to get the benefit of accumulated knowledge about the world of people, and in order to control the mental processes that are involved in making our knowledge more precise, we must master—both theoretically and practically—certain methodological elements. Those in most constant demand, for the purposes here in view, are characterized in the next chapter.

CHAPTER II.

ESSENTIAL METHODOLOGICAL PROCESSES.[2]

I. ANALYSIS.

The objects which we encounter in experience are complex. Every object or event represents either many permanent and coexistent aspects, or many conditions following each other in time. Frequently these two sorts of marks form combinations with each other. Analysis is consequently that form of methodical thinking which is, as a rule, set in motion by the natural qualities of the object of thought. A clear and definite conception of objects is the fundamental condition of scientific research, and at the same time the most obvious mark of distinction between scientific scrutiny and ordinary observation. The first step of investigation must consequently be definite representation of the different elements, which must be simultaneously or successively perceived, of which the fact consists. This analysis of facts takes place, however, in a definite order of succession, within which in general three stages may be distinguished. Of these only the first is the necessary preparation for all the rest in the sense just indicated. The others may combine with synthetic methods. In this combination they form parts of induction and deduction.

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[1] *Vide* "The Sociologists' Point of View," AMERICAN JOURNAL OF SOCIOLOGY, September, 1897, pp. 145–55.

[2] Following WUNDT, *Methodenlehre*, 2. Band, 1. Abtheil., pp. 1–17. To make assurance doubly sure it may be worth while to state explicitly that these citations from general logic do not amount to a claim that these fundamentals belong within the field of sociology. The sociologist must go to school under many teachers. Because he has not learned, as well as he should, some of these elementary lessons in logic, it is necessary to review these portions of antecedent methodology, and to insist that sociologists need to pay more heed to their requirements.

The first of these steps or stages is **elementary analysis.** It consists of separating a phenomenon into the visible parts composing it, without any concern about the relation of these parts to each other — *e. g.*, the movement of a tree in a gale, into the fluttering of the leaves, the bending of the limbs, and the swaying of the trunk. Such is the analysis which furnishes the uncriticised, or partially organized, raw material of social knowledge which I call descriptive sociology. To be sure, this material is accumulated partly by means of scientific processes in which there is a high degree of refinement beyond the primary processes to which I am referring. Relatively, however, accounts of the component activities of associated men, even when they are descriptions in turn of industries, of politics, of domestic, artistic, intellectual, social, religious institutions, are merely elementary analyses. Examinations of the relations between the distinguished parts are not properly begun. This elementary analysis, of whatever degree its precision, serves in the first place merely descriptive purposes. Description consists essentially in pointing out things that exist side by side, and one after the other. Such description prepares the way for search into causal relations, although when the subject-matter is very complicated we have to be a long time content with description alone. Causes are too obscure for immediate detection within the described facts. Moreover, this elementary analysis may make use of various sorts of aids. Thus the different senses may in turn be brought to bear on the thing observed. The ears may report the sounds made by the tree and the wind. The nose may report the odors pressed from the leaves, etc. Or the subjective feelings created — fear, awe, pleasure — may be made parts of the analysis and description. All the time the logical character of the process remains one, and even when artificial helps are brought to bear on the facts — field glasses, instruments for measuring the velocity of the wind, etc. — the analysis is still the same. So is it when the description is made up from the testimony of many witnesses, from various historical documents, from statistical tables, etc. Even when the ultimate purpose of analysis is the discovery of causes, so long as causes are not discovered, and the search merely succeeds in making the details of the facts more clear, the process is, after all, only elementary analysis — as I remarked in the case of descriptive sociology.

A case in point is chemical analysis, although it is a process so much more complex psychologically than the process of describing the movements of a tree. The result of qualitative chemical analysis is merely a knowledge of the component elements of the substance examined, without reference to the more precise conditions of their combination. In these complicated cases, however, elementary analysis tends irresistibly to pass over into the more advanced stages of the analytical method.

The second stage of analysis is **causal analysis.** It consists in the separation of a fact into its component parts with reference to the causal relations of the same. Thus tree, swaying motion, sound, may he analyzed as above in a merely descriptive or elementary fashion ; but when there is advance to a different logical plane the process changes. Or I may say, when the process changes, the analysis is evidently proceeding on a different logical plane. Thus, "the god in the tree and the god in the air are angry with each other, and, wrestling together, they make what we see," viz., the details analyzed into the other terms above. Here the components of the distinguished parts are gods, passions, contest — in turn causes and effects. This analysis for purposes of explanation presupposes elementary descriptive analysis. Yet the descriptive analysis may be very summarily performed or combined with explanation, so that investigation really begins at once with the latter. Instances are physics, psychology, and history; while, on the other hand, chemistry, physiology, political and social science are parts of knowledge in which descriptive analysis is a stadium of intelligence with a distinct importance of its own.

The ground of this difference lies in the different tasks of these sciences. Physics and psychology concern themselves with the explanation of general phenomena, the one of objective, the other of subjective, occurrences. To this end, each begins analysis with the simplest facts, in which, without any descriptive preparation, a consideration of causes becomes at once necessary. The investigation of more complicated phenomena may then follow close upon that of these simpler causal analyses, and there is at once connected with these simple analyses an attempt to test the causal principles, analytically reached, by seeing whether they are applicable as explanations in a synthesis. Such simple points of departure are wanting in history. As a compensation, and logically a similar affair, history employs a comprehensive process of abstraction, which permits seizure upon certain chief factors of historical events, which may be easily referred back to certain psychical motives.

Quite in contrast with this is the situation of the other group of sciences. In their case the simple facts are for a long time beyond reach — thus the facts which qualitative and quantitative analysis must discover in chemistry, the morphological and chemical qualities of an organ in physiology, the facts about occupations and customs in sociology. Hence the initial necessity of independent descriptive analysis.

I speak of this at length, because in the social sciences, with the single exception of political economy, men have hardly begun the necessary process of descriptive analysis, at the basis of all credible science or philosophy or theory of society. That is, they have hardly begun to propose the necessary question: What are the different processes that combine to make up the life of men in society?

Causal analysis is distinguished particularly by its arbitrary isolation of specific elements from the whole complex mass of facts under investigation. This isolation is with the aim of discovering the causal relations of the elements thus separately considered. Elementary analysis goes no farther in changing the object of contemplation than to separate its component parts successively from each other (thus doing in thought what is done literally when the different parts of a manikin are in turn removed and laid aside in the process of illustrative dissection).

To return to the case of our tree in the gale: descriptive analysis does not furnish an instantaneous photograph, nor even a kinetoscopic view, but something midway between the two, *i. e.*, a *naming* of leaf, branch, trunk, with the conditions of each, as though for the moment the remainder did not exist.

Causal analysis goes beyond this in misrepresenting its object, *i. e.*, it ignores altogether the existence of certain parts. It does not then confine itself to demonstration of the remaining parts. On the contrary, it makes every possible attempt to change the conditions of their coexistence or sequence. Thus the device of isolation is reinforced by arbitrary variation of the elements. (For example, in the familiar case of iron filings agitated upon the surface of a glass disk, and the variation of introducing a bar of magnetized steel beneath the disk, with resulting arrangement of the iron filings into the so-called magnetic curves.) This reinforcement of causal analysis by arbitrary variation of the constituent elements may take place whenever the nature of the object permits either the total removal of certain elements or an alteration in their proportions. The analytic form of experimentation consists of such arbitrary variation. Whenever experiment can be used, it deserves preference above every other kind of causal analyis. It is the most direct way of determining the causal relation of the parts of a phenomenon. In certain subjects experiment is out of the question (as, *e. g.*, in the case of certain questions of human physiology, and of the most general cosmological, biological, and historical and social problems). In this case the closest approach to experiment, or the best alternative, is observation of the variations among the elements of phenomena of like general nature. (Thus we cannot produce murderers for scientific purposes, nor may we produce the conditions which incite to murder. We must resort, in the study of homicidal tendencies, to comparison of the conditions under which homicides have occurred.) In other words, we must observe variations that take place, without the assistance of the observer, instead of making variations. The more closely these collected variations resemble the constructed variations, the more nearly will they approach experimentation in value as the source of causal conclusions.

It must be observed in passing that the discovery of appropriate facts, such as parallel variations, is very largely a matter of accident, especially in the earlier stages of any causal analysis. In the most favorable cases, therefore, much time must elapse in research. Moreover, there must be an extensive collection of material upon which observations can be made. (For instance, Darwin's labors for thirty years in collecting observations before he ventured his generalizations on the variations of species.)

It not seldom happens that approximation to the experimental method is estopped by the fact that the objects observable are too individual in their character, so that even the somewhat like phenomena are still too different for precise comparison. This is the case, for example, with those incidents of evolution in which periodical repetition is out of the question, at least in any period which we can observe. This is true of the origins of cosmic and organic structures, and of historical occurrences. In such instances comparative causal analysis must be content in part with remote analogies, in part it must be guided by presumptions from a more general range of facts, from which application is possible to the object under investigation. Thus, for example, analysis of the origin of species falls back on observation of individual development and upon the demonstrable variations of artificially produced types.

In a different field, historical analysis follows generally recognized psychological principles in place of experimentation, and so reaches tentative conclusions.

The third stage is **logical analysis.** It consists in the separation of a complex fact into its component parts, with reference to the logical relations of the same. The presupposition of the process is that ideas have been formed of the qualities of the (distinguishable) elements which make up the whole under investigation. If this condition is fulfilled, logical analysis then undertakes to follow out the separate consequences which result from these qualities.

For example, legal conceptions may be cited. It is presumed that primary descriptive analysis has proceeded far enough to put the thinker into possession of the separate notions involved in jural society. Logical analysis then undertakes to arrange these distinct notions in rational relations to each other, thus forming a philosophy of legal society.

II. SYNTHESIS.[1]

Synthethic procedure may consist in the simple reversal of a preceding analysis. In that case the synthesis is of a reproductive character. It has a relatively limited value, since it serves practically as a corroboration — or, as we say in arithmetic, a "proof" — of the analytic results. The synthetic process may, however, be so used that only certain results of the previous analytical investigations are employed, or, perhaps, only the elementary conceptions, while the synthesis itself binds together the elements in new and independent fashion. An example of this sort is social philosophy, as understood by the present writer. We posit the necessity, first of collecting social facts, then of analyzing social facts. As the product of analysis we have the groups of ideas peculiar to vital science, to mental science, to economic science, to political science, to ethical science, and the various subdivisions of each. The first process of social philosophy is a bringing together of these analyzed groups in such fashion as to present a conception of the whole, *i. e.*, human association, a fact having a past, a present, and a future. In this synthetic process we reach the concept social organism, a concept not given by the antecedent analytic process.

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[1] *Vide* SMALL, "Sociology and Economics," *Journal of Political Economy*, March, 1895, pp. 179 *seq.*

Between the two sorts of synthesis, the reproductive and productive, there are many intermediate sorts. These are reinforced especially by the synthetic form of experimental processes. A common illustration of reproductive synthesis is the fusion of H and O into water, by the passage of the electric spark. The result is a synthetic and experimental demonstration of the chemical composition of water.

Again, after analysis of sound has distinguished component sounds, experimental synthesis produces those sounds simultaneously, in order to see whether they actually compose themselves into the complex sound first analyzed. So of light, etc. But the more creative process of experimental productive synthesis is suggested by these primary processes. *E. g.*, instead of taking all the components found by analysis to be in sunlight, the investigator puts two or more colors together to determine the product of them by synthesis. A special form of synthesis is that which selects from the data of antecedent analysis merely the elements, with which the process of building up is maintained. Geometry is the best illustration. The elements with which it is concerned are the point, the line, and the plane. With these construction is carried on, and this term is best for the process. The productive character of construction in this sense is evident. The analysis which reached these simple elements was of a very primary order. It by no means gave, *prima facie*, as its correlates, the numberless forms and relations in two or three dimensions in which these elements may be combined. The analysis, in other words, does not of itself foreshadow what will be constructed by subsequent synthesis.

The sociologist is consequently bound to understand the traps and snares for the mind throughout its process of building up ideas. We are not only in a world of composite realities, but all our thoughts about the world are composite. They are syntheses of syntheses of syntheses, up to the *n*th power. These thoughts, however, form the material upon which the sociologist is employed, the tools with which he works. He is at the mercy of any false synthesis that may have occurred anywhere in the long process of building up current social ideas. Thus the elementary ideas of the sociologist, *e. g.*, rights, duties, obligations, liberty, individuality, equality, society, nation, sovereignty, government, property, etc., are constructions of many past minds. They are not necessarily coherent constructions. We might throw into the air pieces of material which might for a moment assume shapes conformed to geometric definition. It would by no means follow that these fantastic shapes are permanent and useful correlations of that material. The like is true of social concepts. They may be merely the product of a series of psychological accidents. They may thus be very monstrosities of thought. It is impossible to tell how far back in the process of building up concepts out of concepts the vitiating false synthesis may have occurred. Hence the fully equipped sociologist must be able to criticise the synthetic process from the beginning. It is to be noticed, further, that synthesis may be of threefold stages, corresponding to those of analysis.

1. **Elementary synthesis.** This stage, to be sure, is usually taken for granted in elementary analytical synthesis.

To go back to our tree swaying in the gale, there has been a synthetic process which results in the judgment: "Tree is not man, nor mountain, nor horse." This elementary synthesis is taken for granted when analysis begins to separate the attributes in tree, so that there can be discrimination of oak, elm, maple tree, etc.

2. **Causal synthesis**, on the contrary, is a highly important stage of critical knowledge. It is a serious component of experimental processes. It has its place not merely in confirming the results of analysis by reversing the method of approach; it brings new things to light.

3. **Logical synthesis** operates in all mathematical or other thought construction. These constructions are sometimes facilitated by concrete observation (*Anschauung*), as in synthetic geometry, or in mechanical invention, when deliberately studied out, or in improvement of a social combination, like a railroad association, or a mutual benefit order. In other cases these constructions follow out purely conceptual associations of ideas, as in the case of the demonstrations of Euclid or Hegel's dialectics.

While the method of Euclid is the least objectionable of these different processes (of logical synthesis), it still shows plainly that it is really a process of reproductive synthesis. This does not always come to light in other applications. In fact, the method of Euclid simply recasts analytical results in the synthetic form. When this is not the case, as in the synthetic (constructive) attempts of philosophical dialectics, it is all too easy for arbitrary combinations of ideas to insinuate themselves into the place of valid logical constructions.[1]

In general, the synthetic method is of less wide application than the analytic. Facts defy synthetic construction after they have attained a certain degree of complexity. For example, physics and chemistry analyze the most complex substances and processes. They can reproduce only those that are comparatively simple. The chemist may easily separate water into its component gases. He reunites them only with the greatest difficulty, but he cannot at all produce artificially some of the most common natural compounds of several chemical elements.

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[1] An illustration is the vagary of Novicow in deriving institutionalized aristocracy from the organic concept. In the same logical category is Bellamy's nationalism, George's single tax, Tolstoi's non-resistance, etc.

For similar reasons, synthesis is of limited availability in the psychical sciences. Most psychological, social, and historical facts are of too complicated nature to permit any other than analytical investigation of any great scope and precision. In psychology synthetical experiment is possible to a limited extent. In like manner economic science has arrived at certain synthetic constructions. These, however, have only a hypothetical value. They rest on the assumption that certain conditions exist. This assumption may never quite correspond with the facts.

In all this there is caution and instruction for the sociologist. We are at once put on our guard against the expectation that a way may be quickly found to reconstruct our forms of thought about life. Still less may we anticipate the invention of ways to reconstruct the forms of life itself. In reducing life to systematic formulation we are shut up very closely to reporting, with necessary analytical precision, facts as they are. The moment we venture upon construction of the elements of life into new combinations, we run the risk of falsifying some of the essential elements of the combination.

III. ABSTRACTION.

Abstraction means eliminating certain elements from a complex conception or group of conceptions and retaining the remaining elements as components of a concept.

E. g., we will take the concept "plant," understanding by it a member of the vegetable kingdom in the widest sense, as distinguished from an animal. If, now, we throw out notion after notion, belonging within this general conception, we shall have an *abstraction* left. Thus, plants live different periods, from a few moments to centuries. We will throw out all but ability to live a long term of years. Plants grow in the water, from the air, on other plants, and on animals. We will throw out all but the idea of growth from the ground. Plants are of one stem or many stems. We leave out all but the one. They creep along the ground, or climb upon walls, or other supports, or stretch upright into the air without support. We will throw out all but the last idea. Plants are of all sizes, from microscopic littleness to the height of hillocks. We will exclude all but the height of twenty feet or more. We have now an abstraction from the plant kingdom. We have singled out a subject of that kingdom. Its description is (its individuality, that in which all the other subjects of the kingdom are not precisely like it), "a perennial plant which grows from the ground, with a single, permanent, woody, self-supporting trunk or stem, ordinarily to a height of at least twenty-five or thirty feet" (*Century Dictionary*). But this individual of the plant kingdom needs a name. We therefore call it "tree." When we say "tree," we connote the complicated process of elimination, of which the above is merely a hint. Each of the words descriptive of tree, as distinguished from other subjects of the plant kingdom, is a word that stands for an exclusion of some plant trait which does not belong to the plant tree.

Scientific judgments are comparisons of abstractions. Errors of judgment are very largely the result of thinking about "plant" what is true only of "tree" and of assuming for "tree" whatever is the case with "plant." As we rise from relatively simple to more and more complex concepts, this liability is increased. In social science the danger is seldom absent, and few are the reasoning processes which entirely escape it. That old scapegoat, "the economic man," has borne ten thousand sins of this class.[1]

Accordingly, abstraction is the chief working means for the construction of general ideas. Abstraction rests, however, upon analysis. The facts with reference to which general ideas are to be derived must first be separated into distinct components, before the process of elimination can begin. The scientific significance of abstraction rests partly on its own inherent value, and partly and chiefly upon its importance as component and assistant of other logical processes. One of the most important achievements of the analytical method is success in bringing out into distinct relief, above the mass of details that make up a complex fact, certain elements, to be held isolated for a while, in order that they may be subjected to close examination.

There is another decided advantage possible in combining analysis and abstraction, viz., following the analysis many sorts of abstractions may be made by the free choice of the investigator, and the one abstraction may be made to complement the others. (This is illustrated in the case of "health, wealth, sociability, knowledge, beauty, righteousness.")

Abstraction is of two primary sorts, viz.: (1) **isolating** (abstraction), (2) **generalizing** (abstraction).[2] The former of these is the more primary. To it the analytic method always leads in the first place. It is also presupposed in every generalizing abstraction. It does not follow, however, that the two are regularly consecutive gradations of development. On the contrary, isolating abstraction has its own independent value. In many cases it is impossible to advance beyond this form of abstraction. In others, generalizing abstraction, so far as it is possible, adds relatively little of importance. The essence of isolating abstraction consists in arbitrarily contemplating certain components of a complex object of knowledge as though they were entirely separated from other components.[3]

The crusades, *e. g.*, manifested economic, ethnic, social, æsthetic, intellectual, and ethical elements. Now I may properly set myself to study the economic sequences betrayed during the crusades. I may set myself to abstract these altogether from political, intellectual, æsthetic, and ethical developments. I will start with the fact of overcrowding, say, in France. Some of the incidents of overcrowding are sanitary, but I do not enter into these realities. I am tracing only economic causes and effects. Some of the influences are on family relationships. They are material for me, though not as domestic matters, but as industrial matters. Some of the incidents are criminal, such as bodily violence, robbery, etc. I might turn away from my proposed abstraction to weigh the ethical quality of these, but that is none of my business now. Some of the incidents are those of mob violence under the guise of military conquest: murder, rapine, outrage. These again are stuff for the moralist, but in a quite different way stuff for me. Other incidents are those of superstition and sacrilege and profanation under the guise of religion. Whatever is of economic impulse and for economic interest in all this is my material. I am to trace, if possible, how the mind of man is acted upon, and how it reacts, so far as its economic interests are concerned, by all the circumstances in which economic interests are seen to be a factor in this period. If I ask how the same minds *ought to have been affected* by giving just weight to all the considerations involved, I am simply quitting my proposed task, and taking up another. My proposed object was to get together certain series of facts about the play of mind under given conditions with reference to economic interest. Economic science has for its ideal this same thing, not for one period, but for all periods; and the gathering of all these facts so abstracted into generalizations about the actual reactions of mind upon the economic motive. When we take up the question, "What ought to be our attitude toward certain economic relations," we enter upon a distinct inquiry, as different as diagnosis of a disease is from discovery of ways to treat the disease. We cannot call the two things by the same name, without creating hopeless confusion from the start. The former inquiry is what the economists mean by economics, when they say it has nothing to do with ethics. This is not to say that economics may, can, or must ignore actions that are ethical in quality. It is to say that economics may, can, and must ignore the ethical aspects of those actions, and calculate them simply as factors of such and such force, to be determined by any available means of measurement. To say that economics has nothing to do with ethics is not to say that economics is simply a calculation of forces into which the intellectual and moral character of men does not enter. It is to say that economics is a calculation of all the forces, physical, mental, and moral, that enter into reaction with self-interest in the pursuit of wealth; but solely, in the first instance, with a view to clear knowledge of their actual action; not at all, in the first place, with reference to an estimate of the moral quality of the action. When

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[1] *Vide* AMERICAN JOURNAL OF SOCIOLOGY, March, 1897, pp. 744–5; review of Godkin.

[2] An illustration of (1) is Spencer's (*a*) sustaining system, (*b*) transporting system, (*c*) regulating system; of (2) Giddings' "consciousness of kind"

[3] *E. g.*, General Walker's abstraction of economics from ethics, etc., *i. e.*, contem-

plating the activities directed to the production of wealth entirely apart from the other activities which compose the whole of human pursuits.

we undertake to organize and *direct* economic action, to say what the policy of a community should be about a given subject — currency, taxation, hours of labor, etc.—we at once presuppose this economic abstraction, and a series of other abstractions synthesized into a social philosophy. The "great bad" of recent social theory has been the assumption that a working social philosophy is furnished by the economic abstraction alone.

(The process, just illustrated, is logically the same which the physicist performs when he studies the breaking up of a pencil of light by passage through a prism. He watches the course of the different resulting rays, the angles of refraction, the distribution of the colors. He shuts out of view, *e. g.*, all phenomena of heat, produced in the prism. Or he might reverse the abstraction, ignoring the optical and abstracting only the thermic phenomena.)

Generalizing abstraction consists in ignoring all the qualities of the phenomena under consideration which are liable to variation, from case to case; and in emphasizing certain properties remaining common to the whole group of phenomena under discussion, and treating them as marks of a general concept. Thus the abstraction "solid" has no reference to special forms of solids, as cube, sphere, cone, etc., nor to particular substances that may be found in these forms. It abstracts the one trait of having the three dimensions, length, breadth, and height, in relatively permanent form. Or again, the abstraction "charity" does not take into account the diversified types of charity — hospitals, lodging houses, soup kitchens, bureaus of justice, etc.; it abstracts the single trait of *voluntary effort for the welfare of others.*

Generalizing abstraction falls into two subdivisions: (1) In case the subject-matter of analysis is *actual objects of observation or thought.* In this case concepts of *species* result from the analysis, as in zoölogy, or in political science when governments are classified, and traits common to some or all are, in turn, abstracted. (2) In case the subject-matter of analysis is *propositions* which formulate certain *relations* of objects. Here a process of isolating abstraction is presupposed, and the product of this form of generalizing abstraction is abstract rules or laws. An instance is the physical law that "action and reaction are equal;" the psychical law that "as the twig is bent the tree's inclined;" or the social law that "individual interest yields to common weal."

Ordinary mental processes which precede scientific processes prepare in some measure both forms of abstraction. These uncritical processes have comparatively little effect upon isolating abstraction. On the other hand, they lend themselves far too readily to generalizing abstraction. Concepts which have been formed by uncritical generalization are caught up into learned tradition without being made to furnish scientific credentials, and henceforth they introduce confusion, fallacy, and contradiction. Yet the source of the trouble remains long undetected. A familiar form of the involved fallacy is the tacit assumption that concepts formed by elementary generalization of the unintelligent sort are actual elements of knowledge given in positive experience, *i. e.*, elementary data. Thus in zoölogy the notion prevailed for a long time that each organic species is a primitive organic form. The *canis familiaris* and the *felis domestica* were held to be actual objects, but no one thought of admitting that the *ruminants* or the *vertebrates* as such have or ever had existence (*i. e.*, the easy common abstraction was made into a concrete reality, while the more remote abstraction of really the same nature was devoid of reality).

I must again call attention in this connection to the abstraction "sovereignty," to which, in the same way, real existence has been attributed by the process of crystallization of abstractions into concrete existences. In close relation to above, logically, is our treatment of the concept "law;" *i. e.*, we conceive of law as metaphysical necessity or as physical necessity, perhaps in the latter case deriving the attribute from law as *generalized physical order*. But we forthwith treat the concept "law" as though it actually carried its attribute of necessity into its workings, when its essential nature is only that of *human command*. As a result we have the whole brood of impotent social philosophizings which posit law as a self-enforcing potency. The methodological fault goes back to the rudimentary generalizing abstraction.

In close interdependence with abstraction is the *naming* of phenomena. Nomination is a product of isolation. The name of an object, whether produced in the ordinary course of language development or invented for scientific purposes, always stands for a single, though composite peculiarity (as in the case of "tree" above). A generalization is now closely associated with the naming. The name, originated in connection with a single object, is forthwith carried over to all the objects having the same peculiarity, and the name thus binds those objects together in a genus or species. It comes to pass, then, that nomination, besides being the product of isolating abstraction, is in consequence of that fact the most important coadjutor of generalizing abstraction. The natural sequence or correlation of isolation and generalization appears in the natural history of names as just sketched. It must be noticed here that names are accordingly both friends and foes of science. They bring advantages. They contain almost equal disadvantages. A name which has come into such common use that all traces of its original arbitrary assignment to objects are lost carries with it enormous authority; *e. g.*, the name "virtue." We accept it as though it were the name of a concrete entity, whose attributes have been accurately ascertained. We forget that it was once the name of one kind of action, as for instance, among the Romans, "valor." That action had a certain evident utility. All actions believed to have a similar utility came to have the same name. But in scientifically appraising the concept "virtue" we have to ask, "Is that judgment of utility valid? Is that utility general or special? Do all the acts now subsumed under the term 'virtue' actually serve that utility?" Unless we get clear answers to these questions, it is quite possible that we are permitting the snap judgments of former men to be substitutes for processes which we would feel bound to perform before forming judgments of our own. So much for the disadvantage of names. The advantages do not require emphasis here.[1]

CHAPTER III.

LIGHT ON THE SOCIOLOGICAL PROBLEM FROM THE FOREGOING DISCUSSION.

These distinctions enable us to see certain facts best expressed in very simple form. Men have looked out upon the world of reality and have instinctively begun the process of descriptive analysis. That process has very early resulted in a discrimination of the world of things from the world of people. So soon as that distinction was made, analysis pressed on further within each division. Men have tried to analyze both the world of things and the world of people. They have arrived, in the former case, at a descriptive analysis so minute that the world of things is parceled out among a large number of sciences, each devoted to certain groups of things, or to certain properties of things. These sciences have minutely described their several parts of the world of things, and they have, moreover, done much to make out the causal relations both within the things which they study, and between these things and the rest of things. In attempting to analyze the world of people, other men have separated that human world into parts, and have organized divisions of research devoted to groups of people or to certain phases of fact about people. All this we now see is the result of more or less successful efforts to analyze and describe the world of people. Men have gone farther, and have tried to make *causal* analyses of the world of people. These have taken the various forms of social theories, of varying degrees of generality. The credibility of this causal analysis depends in the first instance, of course, upon the exactness and thoroughness of the previous descriptive analysis. The present task of the social sciences in general is to review the accepted analysis of the world of people, to criticise the same, and so to reorganize descriptive analysis that the facts shall more precisely appear, and that causal analysis may proceed upon a body of more precisely ascertained facts. It will help us in working for such reorganization of social analysis distinctly to define the purpose which the analysis is to serve. Why do we want to analyze the world of people ? My answer is that we want to know:

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[1] We depart from Wundt's order to take it up again in Part II. Wundt's treatment of (*a*) determination, (*b*) induction, (*c*) deduction, deserves equal consideration. It is passed over in this syllabus, because the elements just analyzed have received relatively less attention, and there are among the sociologists more obvious examples of fallacy from ignorance of them.

1. *How does it come about that men's efforts take the turn they do, when many of them live in company?* (This question calls for (*a*) knowledge of the facts of human experience, (*b*) interpretation of these facts so that both static and dynamic laws appear.)

2. *What sort of goal is indicated as the rational social aim by the facts discovered in the world of people?* (This question constitutes a demand for social teleology.)

3. *To what use may we put the answers to 1 and 2 in making our efforts go straighter toward the social goal in the future?* (This question calls for social technology.)

In other words, we want so to know the world of people that we shall understand it profoundly for the most practical purposes. This being the criterion, we have to examine the so-called social sciences to see if they furnish the knowledge needed. Do they between them successfully analyze the world of people ? Do they furnish the descriptive facts needed for the causal analysis which shall answer the question : How do social facts come about ? or, Why are the facts of human association as they are ?

Proceeding in this way we may take fair account of what the social sciences have tried to do. In this review we shall discover that between them there has been failure to detect and describe facts and relations which seem to be the hyphens and the cement and the cohesive force of the whole. Thus we may make a catalogue of what the social sciences have done, and are trying to do, but this will serve to demonstrate a need of reorganizing social science in general, rather than a satisfactory present organization of the social sciences, capable of serving as a sufficient foundation for a constructive system of social aims.

It must be remembered, too, that the division between the world of things and the world of people is not a mathematical line. To know the world of people we must first know that world of things on which the world of people rests, and by which it is constantly influenced. Especially must we know those biological relationships in which the world of things shades off imperceptibly into the world of people. We must know those phases of the whole world which can with the least certainty be wholly assigned to the world of things on the one hand, or to the world of people on the other. This is the realm of biology and psychology. The sociologist must depend upon the biologist for instruction about the borderland between the world of things and the world of people. The sociologist must begin to know how to discover for himself among the phases of reality which appear to belong distinctly in the world of people. Hence he must be at least an initiate, if not an expert, in the methods of psychological analysis.

Now, in order to give another indication that all this very remote preliminary discussion has direct bearings upon every general and special problem of social science, the whole course, from this point, will be made to rally around a single question. It includes innumerable lesser questions that might be proposed in making a catalogue of unexplored social relationships. Let us suppose, for the sake of simplicity, that the social problem is concerned with this one question only, instead of with the thousand and one which are involved, viz.: *What factors prevent, permit, or promote variations in types of correlation among people, and what are the formulas of these influences?*

It will be seen that this question calls for research among social correlations of all orders. What influences preserve or destroy the correlation which any *family* type presents? Or we may propose the same form of question with respect to international alliances or to the present social equilibrium in any country.

It will be obvious, too, that we must have a working concept corresponding with the expression "*variation in types of correlation among people.*" I mean by this phrase *any change which results in a new ratio of valuation or in a new form of functional importance among the individuals affected.*

The question proposed is a concrete expression of the proposition that, in presuming to study "the social problem," we come under the necessity of finding out what are *the most general influences* that operate in the world of people. It may be worth while to point out that the terms of the question suggest at once the categories which will be needed later; viz., the category of *social order*, in which the statical laws prevail ("prevent"); and the category of *social progress*, in which the dynamic laws prevail ("permit or promote").

It is clear, too, that the answer to our question must involve at last a synthesis of answers to the same question in its application to different life spheres. For instance, comparative constitutional history collects cases of variations in structure of the governmental system, economic history cases of variations in structure of the industrial system, etc.; but no special search-science generalizes these results so as to answer our question.[1]

Whether students of society like it or not, all researches about society actually converge toward answer to this question; and, conversely, there can be no answer to the question unless it is constructed by combining and generalizing the fragments of the answers which are furnished by the special social sciences. Thus ethnography is either a collection of curios, good for nothing but amusement, or it is the raw material of ethnology, which tries to answer more or less of our general question. The same is true of history, economics, etc.

I get my own view of the tasks of social science in the largest sense (1) by keeping the fact constantly in mind that we must be able to answer questions like the above, before social science will amount to anything; (2) by remembering that our only means of answering these questions is such investigation of the inside facts of society as will reveal the workings of all the influences concerned in social reactions; (3) by submitting to the necessity of following discovered principles of research, from the foundation up through the whole mass of evidence in which truth about social influence is contained. In other words, if we are to prepare ourselves either to discover truth about such questions as the above, or even to pass judgment upon statements on the subject made by others, we must learn the methods of knowledge throughout the whole region of facts in which knowledge is contained. Hence we have to be sure of the rudiments of *psychical science*, because it deals with those forces which are elementary among the factors of social reactions.

The departments of knowledge which must somehow be controlled before we shall be in a position to answer questions of the order of generality just proposed may be indicated in various ways.

In the first place, a scientific order may be considered, as it appears in the table of contents of Wundt's *Methodenlehre*.[2]

CONTENTS OF WUNDT'S "METHODENLEHRE."

FIRST VOLUME. FIRST DIVISION. GENERAL METHODOLOGY.

Chap. I. *The Methods of Investigation.*
- 1. Analysis and synthesis.
  - (*a*) General significance of the analytical and of the synthetic method.

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[1] *Cf.* AMERICAN JOURNAL OF SOCIOLOGY, September, 1897, pp. 161–3.

[2] *Vide* WARD, "The Place of Sociology among the Sciences," AMERICAN JOURNAL

- (*b*) Analysis.
- (*c*) Synthesis.

2. Abstraction and determination.
3. Induction and deduction.

Chap. II. *The Forms of Systematic Exposition.*

1. Definition.
2. Classification.
    - (*a*) General characteristics of classification, and development of forms of classification.
    - (*b*) Descriptive classification.
    - (*c*) Genetic classification.
    - (*d*) Analytic classification.
    - (*e*) Double, triple, and quadruple division.
3. Proof.
    - (*a*) General tasks of processes of proof.
    - (*b*) Direct forms of proof.
    - (*c*) Indirect forms of proof.

SECOND DIVISION. THE LOGIC OF MATHEMATICS.

Chap. I. *The General Logical Methods of Mathematics.*

Chap. II. *Arithmetical Methods.*

Chap. III. *Geometric Methods.*

Chap. IV. *The Idea of Functions and the Infinitesimal Method.*

THIRD DIVISION. THE LOGIC OF THE NATURAL SCIENCES.

Chap. I. *The General Foundations of Natural Sciences.*

1. The development and division of the natural sciences.
    - (*a*) The development of the natural sciences.
    - (*b*) The system of the natural sciences.
2. Principles of interpretation in the natural sciences.
    - (*a*) Causal and teleological aspects of nature.
    - (*b*) The postulate of observability.
    - (*c*) Critical doubt.
    - (*d*) The principle of simplicity.
3. The principles of mechanics and the causal idea in mechanical theory.
    - (*a*) The development of the fundamental idea of mechanics.
    - (*b*) Formulation of the mechanical axioms of Newton.
    - (*c*) Fundamental teleological theorems of mechanics.
    - (*d*) Fundamental causal theorems of mechanics.

OF SOCIOLOGY, July, 1895, and *Outlines of Sociology*, chap. 1. This chapter is cited here, not because it throws special light on this stage of our argument, but because it sums up analyses of the subject-matter of the social sciences, in a way to which it will be useful to refer back presently.

- (*e*) Phoronomic (kinetic) and dynamic assumptions of mechanics.
- (*f*) The causal idea of mechanical theory, and the postulate of restricted natural causality.

4. The general methods and means of investigating nature.
    - (*a*) General character of the methods of natural science.
    - (*b*) The experimental method.
    - (*c*) The comparative method.
    - (*d*) Description and explanation of nature.

Chap. II. *The Logic of Physics.*

1. The physical methods.
    - (*a*) Analysis of natural phenomena.
    - (*b*) Synthetic production of natural phenomena.
    - (*c*) Physical induction.
    - (*d*) Physical abstraction.
    - (*e*) Physical deduction.
2. Aids to physical investigation.
    - (*a*) Physical observation.
    - (*b*) Measurement of natural phenomena.
    - (*c*) Mathematical auxiliaries of physical investigation.
    - (*d*) Determination of physical constants.
3. The substructure of physical phenomena.
    - (*a*) The hypothesis of continuity and of atoms.
    - (*b*) Dynamic atomic theory.
    - (*c*) Kinetic atomic theory.
    - (*d*) Reversion to conceptions of continuity.
    - (*e*) Logical test of hypotheses.
4. General natural laws.
    - (*a*) Laws and functions of force.
    - (*b*) Laws of energy.
    - (*c*) Ideas of physical limitations.

Chap. III. *The Logic of Chemistry.*

1. Chemical methods.
    - (*a*) General tasks of chemical research.
    - (*b*) Chemical analysis.
    - (*c*) Chemical synthesis.
    - (*d*) Chemical induction.
    - (*e*) Chemical abstraction and deduction.
2. Chemical statics and dynamics.
    - (*a*) The principles of chemical statics.
    - (*b*) The principles of chemical dynamics.
3. The chemical conception of atoms.

Chap. IV. *The Logic of Biology.*

1. Biological methods.

  - (*a*) General tasks of biological research.
  - (*b*) Morphological analysis.
  - (*c*) Researches in physiological chemistrv
  - (*d*) Researches in physiological physics.
  - (*e*) Physiological and pathological analysis.
- 2. The general laws of vital phenomena.
  - (*a*) Biological tendencies.
  - (*b*) Teleological principles of biology.
  - (*c*) Causal principles of biology.
- 3. Fundamental biological ideas, and hypotheses about the general coherence of vital phenomena.
  - (*a*) The organic individual and the elementary organism.
  - (*b*) The systematic ideas of biology.
  - (*c*) The causes of life.
  - (*d*) The concept "disease."

SECOND VOLUME. FOURTH DIVISION. THE LOGIC OF THE PSYCHICAL SCIENCES.

Chap. I. *The General Foundations of the Psychical Sciences.*

- 1. Development and articulation of the psychical sciences.
  - (*a*) Development of the psychical sciences.
  - (*b*) The system of psychical sciences.
  - (*c*) Relation of psychical sciences to philosophy.
- 2. Principles of discovery in the *psychical sciences.*
  - (*a*) The principle of subjective judgment.
  - (*b*) The principle of dependence upon psychical environment
  - (*c*) The principle of natural determination of psychical occurrences.
  - (*d*) Causal and teleological conceptions within the psychical sciences.
- 3. The general methods and auxiliaries of the psychical sciences
  - (*a*) Relation to the methods of natural science.
  - (*b*) Psychological analysis and abstraction.
  - (*c*) The comparative method.
  - (*d*) Interpretation.
  - (*e*) Criticism.
  - (*f*) The idea of law in the psychical sciences.

Chap. II. *The Logic of Psychology.*

- 1. The general types (*Richtungen*) of psychology.
  - (*a*) Materialistic psychology.
  - (*b*) Intellectualistic psychology.
  - (*c*) Voluntaristic psychology.
- 2. Individual psychology.
  - (*a*) The tasks of individual psychology.

    - (*b*) Causal subjective perception.
    - (*c*) General significance of the experimental method for psychology.
    - (*d*) The methods of psychical mass-measurement.
    - (*e*) Elementary psychical analysis.
    - (*f*) Causal analysis of representation.
    - (*g*) Analysis of feelings, affection, and volitions.
    - (*h*) Physiology as an auxiliary to psychology and psychophysics.
  - 3. Folk-psychology.
  - 4. The principles of psychology.
    - (*a*) The idea of the soul.
    - (*b*) The principle of psycho-physical parallelism.
    - (*c*) The principle of physical actuality.
    - (*d*) The principle of creative synthesis.
    - (*e*) The principle of strengthening by contrast.
    - (*f*) The principle of analysis of correlations.
    - (*g*) The fundamental law of psychical causality.
    - (*h*) The idea of psychical community.
  - 5. The applications of psychology.
- Chap. III. *The Logic of the Historical Sciences.*
  - 1. Philology.
    - (*a*) Philology and history.
    - (*b*) Philological interpretation.
    - (*c*) Philological criticism.
  - 2. History.
    - (*a*) Tasks and types of historical research.
    - (*b*) Historical criticism.
    - (*c*) Historical interpretation.
  - 3. The philological-historical sciences.
    - (*a*) Comparative language.
    - (*b*) Mythology.
    - (*c*) Ethnology.
  - 4. The principles of historical science.
    - (*a*) The science and the philosophy of history.
    - (*b*) The general limitations of historical development.
    - (*c*) Historical laws.
    - (*d*) The idea of purpose in history.
- Chap. IV. *The Logic of the Social Sciences.*
  - 1. The general social sciences.
    - (*a*) Sociology.
    - (*b*) Ethnology.
    - (*c*) Demography.
    - (*d*) Political science.

2. Economics.
   - (*a*) Tasks and types of economic theory.
   - (*b*) Abstract economic theory.
   - (*c*) Concrete economic doctrine.
   - (*d*) Theoretical and practical political economy.
3. The science of law.
   - (*a*) The development of law.
   - (*b*) The idea of law and the tasks of the juridical sciences.
   - (*c*) The "civilistic" and the "publicistic" method.
   - (*d*) Norms and definitions of law.
   - (*e*) Legal deduction and juristical proof.
4. The principles of sociology.
   - (*a*) Society and community.
   - (*b*) The organization of society.
   - (*c*) The social laws.
   - (*d*) The social norms.

Chap. V. *The Methods of Philosophy.*

1. The methodological tendencies of philosophy.
2. The empirical method.
3. The dialectic methods.
   - (*a*) The antithetic method.
   - (*b*) The ontological method.
   - (*c*) The method of development of immanent ideas.
4. Philosophy as theory of the sciences.

The different kinds of knowledge needed about the world of people and their relations to the world of things appear in better correlation in a modification of De Greef's scheme (p. 139).

The point to be emphasized here is not the finality of De Greef's classifications, but that it is necessary to learn about all the subjects charted by De Greef, and to study them according to plans which we shall go on to outline. No individual student is sure of ever reaching the point at which he is conscious of a need of going outside of one or other of the divisions of fact about the world of people, in order to organize that division into relationship with other divisions. Much less is any single student sure to reach a conscious need of more abstract generalizations of the facts contained in these divisions than summary formulas of the laws of sequence which operate there. Those needs exist, however, in the nature of the world of people and in the corresponding requirements of thought. That world will not be understood unless the needs are recognized. In outlining the elements of the social problem, then, I shall trace the steps by which,

REORGANIZATION OF DE GREEF'S CLASSIFICATION OF SOCIAL PHENOMENA.

	1 (*g*) Economic Phenomena	2 (*h*) Genetic Phenomena	3 (*i*) Artistic Phenomena	4 (*j*) Phenomena pertaining to Beliefs	5 (*k*) Moral Phenomena	6 (*l*) Juridical Phenomena	7 (*m*) Political Phenomena
	A. Production Agricultural Industrial **B. Consumption** Reproductive Non-productive **C. Circulation** Of fiduciary signs representing products Of supply and demand for products Of products and producers separately Of products with producers	(Concerned with the reproduction of producers) **A. The family** **B. Marriage** **C. Sexual affinity**	**A. Fine arts** **B. Industrial arts**	**A. Positive** Political Juridical **B. Metaphysical** Moral Artistic **C. Religious** Genetic and pertaining to family relations Economic	**A. Ethics** Political Juridical **B. Customs** (*coutumes*) Religious or scientific Artistic **C. Morals** (*mœurs*) Civil Economic	**A. Public law** **B. Administration** **C. Penal and moral law** **D. Law of thought** **E. Artistic law** **F. Civil law** **G. Economic** Agricultural Industrial Commercial	**A. Internal** Politics 1. Juridical 2. Moral 3. Philosophical 4. Artistic 5. Civil 6. Economic **B. External** Politics 1. Juridical 2. Moral 3. Philosophical 4. Artistic 5. Civil 6. Economic
Base	Individuals: the elementary psychic factors; the psychic substratum and environment.						
	The physical substratum and environment.						

in actual experience, we pass from one stage of comprehension to another, and discover interrelationships among various departments of fact in the world of people.[1]

PART II. THE LOGIC OF THE PSYCHICAL SCIENCES.[2]

CHAPTER I.

SPECIAL INTRODUCTION.

These notes proceed upon the assumption that the student intending to enter the field of the social sciences has prepared himself by mastering the methodology of the physical sciences, at least in its rudiments. He is supposed to understand the general correlations of the different aspects of the world of things, which concern, in turn, physics, chemistry, and biology. It is presumed that the student is sufficiently intelligent about the problems presented by the phenomena on the borderland between the world of things and the world of people to make logical use of knowledge that may be gained by special investigations within that territory, at least so far as the knowledge affects the conditions of the world of people. In other words, familiarity with the discussions cited at the head of this section is, from this point, taken for granted. Otherwise expressed, it is assumed that the phenomena represented by the lower section of the "base" in De Greef's chart (above, p. 139) are understood in their most general relations to all else represented by the chart. The foregoing presumptions lead to the further presumption that the student is prepared to take cognizance of what is represented by the upper section of the "base" in De Greef's chart. He must have differentiated the world of things from the world of people, and must have perceived that *the world of people is composed of people.* To get ahead in answering the comprehensive question which makes our problem (above, p. 132), we are obliged to take due account of the fact that people are members of the animal kingdom. The laws of life reign among them before the laws of mind get control. Hence we cannot adjourn biological study the moment we pass to the world of people. To know all about the forces at work in the world of people we must know how to detect and formulate the biological forces. Man is first an animal. The elementary study of man falls within "the highest section of zoölogy."[1] Hence the study of man is a biological rather than a sociological pursuit.[2]

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[1] *Vide* SMALL, "The Sociologists' Point of View," AMERICAN JOURNAL OF SOCIOLOGY, September, 1897, pp. 155–70.

[2] *Vide* SPENCER, *The Study of Sociology;* WARD, "The Relation of Sociology to Cosmology, Anthropology, Psychology," AMERICAN JOURNAL OF SOCIOLOGY, September, 1895—March, 1896, and *Outlines of Sociology*, chaps. 2–5; HYSLOP, *The Science of Sociology;* WUNDT, 2. Bd., 1. Abtheil., *passim*, particularly pp. 514–80, "Die Logik der Biologie."

But man is an animal *plus* something. This *plus* is not present in the other animals in sufficient force to be a distinguishing trait. Man is a *psychic animal.* While we assume for the present, therefore, that the study of man as an animal has been provided for in planning study of the world of things, we shall see later that complete investigation of man as a psychic animal will send us back for instruction to the science of anthropology. That is, we are dependent upon anthropology, not only for knowledge of man as part of the world of things, but also for some of our knowledge of man as the primary element of the world of people. We must consult anthropology for part of our knowledge about the physical conditions of psychic action.

So far as we know, there are but two elementary factors at work in the world of people. These we term, in general, the *physical* and the *psychical.* Considering the world of things the realm of the physical, we have to do, not wholly, but by way of difference, with the action of the psychical element, when we abstract the world of people from the whole reality. The problem presented by our guiding question (above, p. 132) amounts to this: *In what way does the psychical factor work in the world of people?* From the standpoint thus determined, each of the "sciences" that have grown up in connection with the facts about the world of people must be appraised by the answer to this question: *How much of the necessary work of collecting and sifting the evidence about the workings of the psychic factor in the world of people has the science in question done, and how much has it left undone; how much has it the means of doing, and how much is beyond its means?*

We must here anticipate a conclusion that will be forced upon us when we come to investigate the above question in its application to the various sciences about humanity. We must be forewarned that it is almost impossible to find a spokesman for one of the divisions of human science who makes approximately just claims for the service rendered by his own science. The anthropologist, the ethnologist, the philologist, the historian, etc., etc., each may be found maintaining that his science has to do with the "total output of the human mind." We are accordingly not only confronted with the task of investigating the workings of the human mind, in all its essential operations, but the difficulty of that task is enormously increased by the embarrassments introduced through the conflicting claims of people who have attempted to discharge the task. Our efforts to arrange objectively correct categories for the different kinds of products of psychic action are obstructed at every turn by the arbitrary divisions of human "science." We insensibly yield more or less to the impression that facts, as such, must be assignable to groups corresponding with divisions of sciences dealing with the facts. Then we find that a given phenomenon is part of the material of half a dozen or more "sciences." Let us take the present situation of the Austro-Hungarian parliament for example. It may be used as material by ethnologist, psychologist, philologist, historian, economist, political scientist, moralist, and sociologist. What becomes of the "boundaries of the sciences" in view of their thus foraging in the same field ?

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[1] *Vide* SMALL and VINCENT, *Introduction to the Study of Society,* p. 56.

[2] *Vide* WARD, *Sociology and Anthropology.*

The clue to the solution of the puzzle has already been given in Part I. It is, more definitely, that, in general, *the sciences dealing with the world of people are either concerned with certain abstractions from the whole sum of facts*, or *they deal with the facts in so far as they are accessible through certain restricted sorts of evidence, or so far as they can be discovered by application of certain peculiar processes of investigation.* The phenomena themselves form one whole, appearing to us in countless manifestations. That complex aggregate is represented by the De Greef chart (above, p. 139). No portion of that chart represents the preserve of any single science. The sciences, physical and psychical, are merely good or bad divisions of labor, for the purpose of acquiring such knowledge of the things represented by the chart as will tend to answer the most general questions about the coöperation of physical and psychical factors in the world of people ; such questions, for example, as the one we have formulated as the inclusive question of sociology ; representing an order of generality to which no single division of labor upon human facts corresponds (above, p. 132). In view of the foregoing, it is in order to consider the relations of psychical science in general to the large problems presented by concrete social conditions.

Before entering upon this part of the discussion it is pertinent to correct an error which has been spread of late by numerous writers on both sides of the Atlantic. The error consists, first, in assuming that certain crude mechanical conceptions of social forces, or certain interpretations of society as material for zoölogical classification and clinical dissection, have not merely persisted, but have monopolized sociological theory until less than half a dozen years ago. The error consists, second, in claiming for certain very recent and quite commonplace assertions of psychic force in society the merit of originality; and in crediting them accordingly with the service of rescuing sociology from barren materialism. This is as if Rip Van Winkle should be regarded as author of all the changes that were going forward while he was asleep.

It is true that there remain even now a few sociological theorists who are trying to breathe the breath of life into mechanical or biological literalism proposed as a version of society. It is also true that these conceptions lost their prestige more than twenty years ago. Many sociologists still use biological metaphors as tools of investigation and as means of expression. Other writers have been unable to understand that most of the men who employ this biological language long ago eliminated from their own use of the terms all mechanical and biological literalism. This obtuseness has produced persistent confusion of figurative language with ideas foreign to the users of the language. The fact is that almost invariably, during the last two decades at least, the men who have employed these physiological terms have been perfectly clear in their own minds about the subordination of these physical terms to the service of expressing chiefly psychical relations. They have not thought it worth while to guard themselves enough to make misinterpretation impossible on the part of critics predisposed to misconception. Consequently there has been a chance to win victories over straw men by correcting alleged errors which had real existence only in the case of rare and unimportant theorists. In making the most of this opportunity, men who seem sincere in the belief that they are communicating to the world the boon of a fresh discovery, have, over and over again, within the past two or three years announced, with most Quixotic gravity, that psychical factors are the determining elements in social reactions!

All this might be passed over without comment if it did not imply misinterpretation of nearly all (and surely of the best) that has been written on sociology for the last twenty years, together with much that is still older. It is hard to see how this misinterpretation can be other than conscious falsification in some instances. Nobody who presumes to write about sociology deserves forgiveness if he is so ignorant of what other men have thought and said as to suppose that the assumption of the psychical as the determining factor in social movements marks a recent change of front in sociology. Since Schäffle and De Greef in Europe, and Ward in this country, the assumption has been decisive and all but universal. With every recent investigator worth consideration, the sociological problem has been some part of the problem of discovering the ways in which psychic factors work in society. The sociologist who does not know this must have followed Comte's programme of refusing to consult the writings of others. In calling attention to the relations of psychic facts and of psychological science to the social and the sociological, we are not exploiting a novelty. We are still within the limits of the familiar and the practically undisputed. The doubt is about the *formulas* of psychical force, not about its presence nor its prevalence.

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